

Remarks/Arguments:

Claim Status

Claims 22-49 are currently pending. Claims 26-29, 31, 32, 34, 48 and 49 are withdrawn from consideration. Claims 39-41 and 43 stand objected as being dependent upon a rejected base claim, but would be allowable if rewritten into independent form.

Withdrawal of Claims 48 and 49

New claims 48 and 49 were withdrawn in the final Office Action because those claims were deemed to be directed to the non-elected embodiments shown in Figures 5-8. The Applicants respectfully disagree and submit that claims 48 and 49 are generic for the reasons set forth hereinafter.

Claim 48 recites "wherein, in the fallback mode, said one of the actuation components bears on the other actuation component, and in the by-wire mode said other actuation component does not bear on the other actuation component." Claim 49 recites "wherein, in the by-wire mode, the first actuation component is unconstrained with respect to the second actuation component." The features recited in claims 48 and 49 apply to the embodiments of FIGS. 1 and 2 and FIGS. 3 and 4, which were elected for prosecution by the Applicants. The clean copy of the substitute specification explains beginning at page 18, line 16 that "Figure 2 shows the mechanical uncoupling of the brake pedal 1 from the booster 6 or its input member 5 that is desired in the by-wire mode."

Similarly, the clutch shown in FIGS. 3 and 4 "renders it optionally possible to mechanically couple the brake pedal 1 to the actuation component 5 or to remove this coupling" (page 20, lines 14-16; emphasis added). More particularly, in one rotational position of the actuation component 5 of FIG. 3, the projections 30 of the actuation component 5 bear on the projections 23 of the clutch shaft 21 such that movement of the clutch shaft 21 moves the actuation component 5. In another rotational position of the actuation component 5, the projections 5 of the actuation component 5 do not bear on the projections 23 of the clutch shaft 21 such that movement of the clutch shaft 21 does not induce movement of the actuation component 5. In other words, in the aforementioned another rotational position of the

actuation component 5, the actuation component 5 is unconstrained with respect to the clutch shaft 21.

It is respectfully submitted that claims 48 and 49 read on the elected embodiment. Examination and allowance of these claims are respectfully requested.

Rejections Under 35 U.S.C. §102 and §103

Claims 22-25, 36-38, 42, and 44-47 stand rejected under 35 U.S.C. 102(b) as anticipated by Heibel (US No. 6,233,932). Claims 30, 33 and 35 stand rejected under 35 U.S.C. 103(a) as unpatentable over Heibel. Applicants respectfully traverse the rejection of these claims for the reasons set forth below.

"A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." M.P.E.P. §2131 *citing Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). "To establish a prima facie case of obviousness, ... the prior art reference (or references when combined) must teach or suggest all the claim limitations." M.P.E.P. §2143. Claims 22 and 45 recite features that are neither disclosed nor suggested by the cited reference.

More particularly, independent claim 22 recites a "[b]rake-by-wire actuator for actuating the brake system of a motor vehicle, comprising a simulator which can be acted upon by a brake pedal, with an output signal of an actuation sensor being sent to an electronic control unit which controls a pressure source in response to the signal of the actuation sensor, and with an output of the pressure source that is connected to a distributor device for the brake force and actuates individual wheel brakes of the vehicle, also comprising means for enabling actuation of the brakes by muscular power within a fallback mode, wherein a first actuation component, defined by the brake pedal or a component articulated at the brake pedal, and a second actuation component that is connected downstream in the flux of force are configured relative to one another such that **the first actuation component remains mechanically uncoupled in a non-force-transmitting manner from the second actuation component during a by-wire mode with a lost travel remaining between the first and second actuation components during the by-wire mode.**" Independent claim 45 recites similar features.

The Office Action cites to Heibel's input member 60 as equivalent to the first actuation component and Heibel's pin shaped-projection 66 of the primary piston 16 as equivalent to the second actuation component. Heibel's input member 60 and primary piston 16 (including its pin shaped-projection 66) remain mechanically coupled in a force-transmitting manner during a by-wire mode. As best shown in Figure 1 of Heibel, the brake pedal 58 bears on a plate 86; the plate 86 bears on one end of a spring 74; the opposing end of the spring 74 bears on another plate 78; the plate 78 bears on one end of a hollow piston 40; and the opposing end of the hollow piston 40 bears on the primary piston 16. Because Heibel's input member 60 bears on the primary piston 16 at all times (by virtue of the force of spring 74), Heibel does not disclose a first actuation component that remains mechanically uncoupled in a non-force-transmitting manner from a second actuation component during a by-wire mode.

The final Office Action contends that Heibel's input member 60 is mechanically uncoupled in a non-force-transmitting manner from the pin shaped-projection 66 because Heibel's spring 74 does not transmit force if the booster chamber 44 is pressurized during a by-wire mode. The Applicants respectfully disagree with this contention. First, as Heibel explains at column 7, lines 60-67, **the spring 74 provides a driver with feedback during the by-wire mode.** To provided feedback to the driver, the spring 74 must mechanically couple the input member 60 with the pin shaped-projection. Based on such a mechanical coupling, vibrations or disturbances produced by the braking system will be transmitted to the driver even in the by-wire mode.

Second, by virtue of the arrangement of the spring 74, the projection 66 and the input member 60, the spring 74 always transmits force unto the pin shaped-projection 66, regardless of whether booster chamber 44 is pressurized. Even though the pressure of the chamber 44 may exceed the force applied by the spring 74 in a by-wire mode, the spring 74 still transmits a force onto the pin shaped-projection 66. Thus, Heibel does not disclose a first actuation component that remains mechanically uncoupled in a non-force-transmitting manner from a second actuation component during a by-wire mode.

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For at least the foregoing reasons, it is respectfully submitted that claims 22 and 45 are in a condition for allowance. The rejected and withdrawn claims that depend from those claims should also be in condition for allowance. Reconsideration and allowance of each of the pending claims are respectfully requested. If the Examiner believes an interview will advance the prosecution of this matter, the Examiner is invited to contact the undersigned to arrange the same.

Respectfully submitted,

A handwritten signature in dark ink, appearing to read 'G. Massina', is written over a horizontal line.

Glenn M. Massina, Reg. No. 40,081
Brett J. Rosen, Reg. No. 56,047
Attorneys for Applicants

GMM/BJR/dlm

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P.O. Box 980
Valley Forge, PA 19482
(610) 407-0700

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